

SUSTAINABLE APPROACH TO MINERALS AND WASTE DEVELOPMENT

20. **Sustainable Transport of Minerals or waste:** The reduction of GHG emissions from mineral and waste transport, particularly road transport, is a high priority. The transport of minerals or waste by more sustainable modes including rail, water, conveyor and pipeline, and the potential to use alternative, low carbon, road fuels should be



Railway wagons being loaded with crushed limestone, Smalldale, Derbyshire

considered. All proposals for new minerals or waste development, including those at an existing site, should provide climate change mitigation and adaptation measures proportionate to its scale and likely predicted impact. These measures should include sustainable transport planning.

21. **Site restoration and aftercare:** Site restoration should take place in a phased manner at the earliest opportunity. Where appropriate this may include the provision of renewable energy development and/or contribute to biodiversity net gain taking account of local designations. Mineral development restoration has the potential to provide carbon sequestration though this must be balanced within the context of landscape character conservation and enhancement and the provision of a coherent and resilient ecological network. It is recognised that any proposals for restoration to uses including the provision of renewable energy schemes are likely to require independent planning approval.
22. **Resource efficiency:** Where proposals include the extension or continued use of an existing site, climate change mitigation, adaptation and resilience measures may be included as site improvement measures.
23. Working methods should maximise efficiency of both plant use and mineral utilisation, minimising waste and increasing the supply of secondary and recycled aggregates, re-use and re-working of minerals from tipped waste minerals. This should include the careful management of soils and overburden to enable reuse in restoration while protecting the characteristics of soils.
24. **GHG management and reduction:** A greenhouse gas reduction plan should be produced, approved and implemented to ensure that as far as practicable, measures to reduce the GHG emissions from the operation are

reduced through plant selection and maintenance, working practices and the use of low carbon energy sources and fuels, this may include the provision of electric vehicle charge points and the use of low emissions plant.

25. **Management system certification:** The application of international standards including ISO 14001: Environmental Management, 9001: Quality Management or 50001: Energy Management will provide evidence of externally verified processes and practices contributing to climate change mitigation and adaptation. Operators should be encouraged to use a systems approach to the verification of environmental performance.
26. **Management of the water environment:** The use of potable water and the treatment of wastewater have a GHG cost which should be kept to a minimum. Therefore, water use should be minimised and where possible, water recycling should be implemented.
27. The natural water environment, including groundwater should be protected as a valuable resource and for its contribution to biodiversity. Climate change projections indicate that warmer, dryer summers are highly likely, and this will increase stress on the water environment with implications for both the available resource and impacts on biodiversity.
28. **Biodiversity gain:** As with all developments, proposals for mineral extraction should demonstrate that a net biodiversity gain can be achieved. This may require a degree of adaptation to the impacts of climate change in

terms of species selection and habitat types proposed in restoration schemes. See comments above paragraph 145 above.

29. Designated areas and, where possible, existing habitats and soils, should be retained. Restoration plans must take account of protected and retained habitat features within and near to the site. These habitats and soils should be conserved and enhanced in restoration proposals.



Species rich field headlands

30. **On-site renewables:** Many mineral proposals may provide opportunities for the generation of renewable energy either during operation or as part of site restoration. Solar or wind energy may be included in plant design while solar PV, ground or water source heat may be exploited as part of site restoration. In the case of existing minerals permissions, where restoration schemes have been agreed, this will require the submission of the relevant planning application for renewables.
31. Where new minerals proposals are brought forward the potential for the inclusion of renewable energy development alongside or following mineral working should be considered.
32. **Application of the Waste Hierarchy:** The waste hierarchy should be applied to all forms of development including minerals and waste. Proposals should include a Site Waste Management Plan detailing how the hierarchy will be applied and residual wastes managed, contributing to operational efficiency.
33. **Flood risk reduction and resilience:** Proposals for the winning and working of mineral resources should, like other forms of development, take account of flood risk and the impacts of flood risk on not only the proposed development, but on other locations. Minerals can only be worked where they exist. Where a risk of flooding exists, the form of development should be resilient to that risk. Development may not be considered acceptable where it will give risk to an increased risk of flooding elsewhere.